Docket No.: 80154(302728)
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Takashi Yamaguchi et al.

Application No.: 10/539,884 Confirmation No.: 6471

Filed: June 16, 2005 Art Unit: 1791

For: COMPOSITE OF ALUMINUM MATERIAL AND SYNTHETIC RESIN MOLDING AND PROCESS FOR PRODUCING THE SAME Examiner: D. N. Bodawala

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION PURSUANT TO 37 CFR 1.132

Dear Sir:

I, Masao Yamaguchi, hereby declare and state as follows:

1. I am one of the inventors of the invention as claimed in the above-identified application, and accordingly, I am familiar with the specification and claims which comprise this application.
2. Currently, I am employed at Corona International Corporation as a Vice President of development. I have worked at Corona International Corporation since 2000.
3. I received my higher education at Tamagawa University, obtaining a bachelor degree in technology.
4. In particular I, or people under my control, performed tensile strength tests of the claimed composite produced by the claimed invention in application No. 10/539,884.
5. The method for determining the vertical tensile strength, particularly the tensile strength when a cylindrical stud is pulled upward or vertically, is shown and described by the following photographs:

A specimen of a composite for a tensile test (Photo 1)

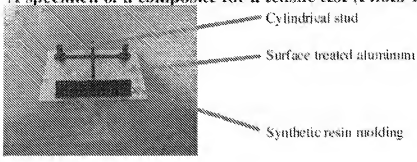


Photo 1

Photo 1 shows a perspective view of a specimen of a composite used for a tensile test. The specimen comprises a surface treated aluminum material, namely, the anodic oxidation treated aluminum material and a synthetic resin molding adhered to the anodic oxidation treated aluminum material.

The synthetic resin molding composed of right and left studs, a frame portion and a T-shaped runner portion connecting between the studs and the frame portion and a gate portion standing from the crossing of the T-shaped runner.

The stud is composed of a circular base and a hollow cylindrical portion standing from the circular base. The circular base is 10 mm in diameter and adhered to the surface treated aluminum material. The hollow cylindrical portion is 5 mm in an outer diameter.

The surface treated aluminum material is 70 mm by 50 mm in dimensions.

A jig holding the specimen in position (Photo 2)

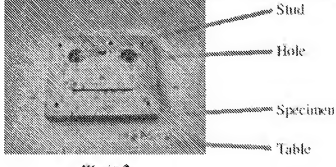


Photo 2

Photo 2 shows a perspective view of a jig holding the specimen in position. The specimen is fixed in position between the upper plate and the lower plate of the jig. The jig is 100 mm by 80 mm in dimension which is larger than the surface treated aluminum material in size.

More in detail, the specimen is held in position by the jig in such a manner that the respective circular bases of the right and left studs, a base of the frame portion, the T-shaped runner portion are held between the upper plate and lower plate while the respective hollow cylindrical portions of the right and left studs, the frame portion and the gate portion are inserted into the respective holes made in the upper plate, and is then the jig is fastened to a floor through the at four corners of the upper and lower plates by means of respective screws.

An inserting rod used for a tensile test (Photo 3)

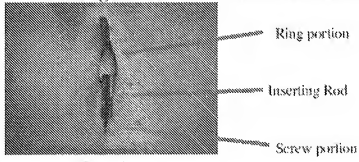


Photo 3

Photo 3 shows a side view of an inserting rod used for a tensile test. The inserting rod has a screw portion and a ring portion.

Method for measuring a tensile strength (Photo 4 Overload Condition (Photo5)

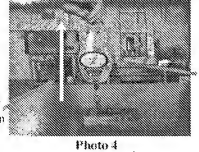


Photo 4

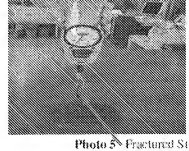


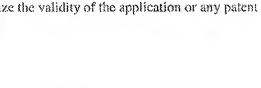
Photo 5 Fractured Stud

Photo 4 shows a method for measuring the vertical tensile strength. The screw portion of the inserting rod was screwed into the hollow cylindrical portion of the stud and a force gauge used as a tensile tester was hooked on the ring portion of the inserting rod. The force gauge was pulled to a force of 20 to at least 50 Kgf/cm^2 during which no breakage occurred. Thereafter, the force gauge was pulled upwards in the vertical tensile direction as shown in Photo 4, and the indicator needle indicated 50 Kgf which is the threshold value of the gradnations. When the force gauge was further pulled npwards beyond 50Kgf, the stud was then fractured as shown in Photo 4.

6. In conclusion, from this test, it has been found that since a tensile strength measnred by pulling upward in the vertical direction at the time of facture of the stud is beyond 50 Kgf/0.78 mm^2, which is an area of the circular base of the stud when the unit of mm^2 is converted into that of cm^2, then the vertical tensile strength is 64 Kgf/cm^2, which is beyond 50 Kgf/cm^2.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: May 27, 2010

By: 

Masao Yamaguchi